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DIMENSIONS OF RAW PRODUCT COSTS IN COTTAGE CHEESE MANUFACTURE IN THE 1980's

By Robert E. Jacobson

ABSTRACT

The costs of dairy ingredients in cottage cheese operations represent an increasing portion of total costs and rank second only to processing among the cost factors. In this next decade, several pricing phenomena will variously impact the raw product costs. These phenomena include price class assignment of cottage cheese, forward pricing arrangements for Class II milk, disappearance of a competitive manufacturing milk price base, relative values of milkfat and solids-not-fat, and effect of dairy price support levels on cottage cheese costs. The likelihood of what will happen in each of these areas is discussed.

The costs of skim milk, nonfat dry milk, and milkfat represent important components of the total value of cottage cheese. On a yield basis of 15 pounds of cottage cheese per 100 pounds of skim milk, and with Class II skim milk approximating $7.00 per cwt. (Federal order markets in the United States in 1981), the cost of skim milk per pound of curd recently has been about 47 cents. Milkfat in Class II for creaming purposes is about $1.75 a pound, and nonfat dry milk for fortification or reconstitution purposes has been close to the government purchase price of 94 cents per pound. With prices at these levels for the milk ingredients in cottage cheese, the raw product milk costs in the cottage cheese operation have become sizeable.

Retail prices for cottage cheese show all kinds of variation associated with product differentiation, container size, and pricing strategies. At the same time, raw product costs rank second only to processing costs in the cost structure of cottage cheese production and marketing. For a 24 ounce container of creamed cottage cheese (4 percent milkfat), for example, selling at the store for $1.59, raw product costs for the dairy ingredients are about 43 percent of the consumer price. These cost-price relationships have become normal for cottage cheese. Milk ingredient costs as a proportion of the total value of cottage cheese have been increasing in recent years. In the 1950-1967 period, raw product costs accounted for only about 20 percent of the final consumer price for cottage cheese [1]. But as the more recent data indicate, the "farmer's share" has trended steadily upward and new pressures on the level of retail prices for cottage cheese are emerging.

As we look to the next several years, a number of important factors will affect the raw milk ingredient costs of cottage cheese. These factors include (1) the price class treatment of cottage cheese in Federal market order regulations; (2) forward pricing arrangements for Class II products; (3) impact on milk prices as

the Minnesota-Wisconsin Grade B price series is eliminated; (4) relative values assigned to milkfat and solids-not-fat in the price support program; and (5) design of the dairy price support program. The growing importance of milk costs in the cottage cheese price, the relative sensitivity of cottage cheese demand to price changes [2], and the static sales picture for cottage cheese in recent years combine to emphasize the importance of pending milk prices.

Cottage Cheese Priced In Class II Usage

In the classified pricing systems used in Grade A markets in the U.S., three price classes generally are used, and cottage cheese is defined as a Class II or "soft" product. The price assigned to milk used for Class II products most frequently is the manufacturing milk price (M-W price) for the month plus 10 cents. While there is reason to assume that the present pricing arrangement will hold in the 1980's, it must also be recognized that classified pricing has been challenged by various groups as a discriminatory mechanism. The alternative to classified pricing would be a single "flat" price. Such an arrangement would mean lower Class I prices but higher Class II/III prices, and therefore higher cottage cheese costs. The assignment of cottage cheese to the Class II category historically has been associated primarily with (1) the fact that demand for cottage cheese is not as price elastic as demand for fluid milk product, and (2) the fact that prices for nonfat dry milk offer that product as an economic alternative to Class II skim milk if the Class II price is excessive.

Forward Pricing of Class II Milk

The most recent significant adjustment in regulated milk pricing has been the shift to forward pricing of milk used for Class II products. After years of effort and a Federal court ruling favorable to processing interests, the U.S. Department of Agriculture has only recently implemented a procedure in most markets for announcing Class II prices in advance. As one may recall, Class II prices until recently have been announced on the 5th day of the month <u>following</u> the month in which the milk was received and utilized. As noted in the Recommended Decision, the previous practice of retroactive pricing caused "financial risk to handlers in pricing Class II products without knowing the cost of Class II milk" [3].

The effect of the change to forward pricing should not change the cost situation for milk used for Class II products, including cottage cheese. Essentially, a Class II price is announced on or before the 15th of the month for application in the following month. The procedure for calculating the tentative* Class II price is somewhat complicated, as it includes an adjustment of the Minnesota-Wisconsin manufacturing milk price for second previous months based on changes in wholesale butter, cheese, and nonfat dry milk prices from the first half of the second preceding month to the first half of the preceding month; and with the resulting updated estimate of an M-W price, a variable Class II differential is added to formulate the Class II price. The mechanics of this procedure clearly violate any principle of simplicity that needs to be recognized in milk price regulations, but the essential effects of the procedure do implement forward pricing and do result in Class II prices that on the average will continue to exceed Class III prices by

*The forward Class II price is described as "tentative" in the sense that it cannot be lower than the Class III price for the month. Therefore, the forward Class II price is tentative until the Class III price is announced.

10 cents per cwt. For cottage cheese processors, the procedure means they can know their raw product costs in advance, and Class II prices will be in the same relationship to other class prices that have been maintained previously.

Class Prices Shift From Grade B Price Series

Grade B milk continues to decline as a proportion of the total milk supply in the United States [4]. In 1980, manufacturing grade milk accounted for less than 17 percent of total milk production. Yet, Grade A milk prices throughout the country continue to be announced on the basis of competitively established Grade B prices in Minnesota and Wisconsin. We are quickly approaching the point where only one-fourth of the producer milk in Wisconsin and one-third of the producer milk in Minnesota will not be of Grade A quality and not be in price regulated markets [5]. As a result, a credible and reliable price series based on competitive manufacturing milk prices will no longer be available. All milk prices, including the Class II prices used for cottage cheese will be affected. While no alternative procedure for formulating administered Grade A prices in the absence of a Grade B price series has been agreed upon as yet, it is probable that product price formulas (butter-powder or butter-powder-cheese) that are tied to wholesale market prices will serve as an effective replacement. There should be little to no effect on the price of milk used for cottage cheese as a result of this change.

Relative Values of Milkfat and Solids-Not-Fat

At the present time, for milk used for manufactured dairy products in the U.S., slightly over half (52 percent) of the value of the milk is associated with the 96.5 pounds of skim milk, and slightly under half of the value is associated with the 3.5 pounds of milkfat. The key factor affecting these relative values for many years has been the government support purchase prices for butter and nonfat dry milk. Essentially, any increase in the support price for milk must be effected by increases in the Commodity Credit Corporation purchase prices for butter and nonfat dry milk (and cheese). As a rule of thumb, a 10 cent increase in the support price for milk can be accomplished by an increase of 2.2 cents in the purchase price for butter, or an increase of 1.2 cents in the purchase price for NFDM, or a combination of the two. In recent years, the U.S. Department of Agriculture has chosen to divide increases in the support price equally between increases in milkfat values and SNF values. A required support price increase of 50 cents per cwt., for example, would mean 25 cents more on the milkfat side, or a jump of 5.5 cents per pound in the butter purchase price; and there would be a 25 cent increase on the SNF side, or a 3 cent per pound increase in the nonfat dry milk purchase price. In the 1960's and early 1970's though, much of the increase in support price levels was placed on the SNF side, with sizeable increases in NFDM purchase prices while butter purchase prices were only modestly adjusted. And all of us watched NFDM prices in the wholesale markets move up, most recently to their present 94 cent level, and we gradually became aware that skim milk prices had moved up at the same rate. As a consequence, raw product costs for cottage cheese manufacture increased in relative importance.

As we look to the future, many major questions surround the operation of the dairy price support program. But in terms of purchase prices for butter and powder, and in terms of relative values of milkfat and solids-not-fat, and finally in terms of the resulting impacts on dairy ingredient costs in cottage cheese processing, the 50-50 split between milkfat and solids-not-fat probably will be continued. No one is pleased with the concomitant increases in CCC purchase prices because adverse

effects on demand have been observed. But a better procedure has not been devised. So-called tilts between milkfat and solids-not-fat and between cheese and butter-powder have either not worked or not been acceptable or both. At this juncture, price support adjustments in the 1980's probably will be affected by comparable increments on the milkfat side and the solids-not-fat side, and projected raw product costs for cottage cheese can be evaluated on that basis.

Dairy Price Support Levels In the 1980's

The dairy price support program is a major factor affecting the level of milk prices. In a period such as 1980 and 1981, when national milk production has exceeded commercial demand by 7 percent or more, the dairy price support program takes on even added importance in determining the level of milk prices[6]. Since the price of milk used for cottage cheese processing hovers close to the support price much of the time, and parallels the manufacturing milk price all of the time, expectations of what will happen to the dairy price support program in the 1980's are very pertinent to the matter of raw product costs for cottage cheese.

The long time authorization for dairy price support is found in the Agricultural Act of 1949. That Act requires that a support price for milk be established in the range of 75 to 90 percent of parity at the start of each marketing year (October 1). Some recent innovations, including shorter duration amendments that specified a minimum of 80 percent of parity together with semi-annual adjustments, have complicated the matter somewhat. However, the basic elements of the dairy price support program continue to include the parity formula, flexible price supports in the 75 to 90 percent range, and Commodity Credit Corporation purchases of butter, cheese, and nonfat dry milk at prices designed to return to the dairy farmer finally a price that is at or above the announced support price.

With a new Farm Act being drafted in 1981, and with considerable criticism of and challenge to the dairy price support program because of excessive and costly surpluses in the past couple of years, significant revisions in dairy price support operations in the 1980's are probable. Two factors have become evident. First, in the long run, the supply of milk must be in some reasonable balance with the demand for milk, and adjustments in price are the only acceptable means of achieving that balance. Second, the Secretary of Agriculture must be permitted sufficient flexibility in his price support decision responsibility so that he can, in fact, establish dairy support prices that relate to total market conditions.

The primary expression of these two factors is found in the discussions of dairy price support at 70 percent of parity, and 65 percent of parity -- levels that simply were not addressed as recently as a year ago. At current price levels, five percentage points of parity are equivalent to approximately $1.00 per cwt. in the milk price. Therefore, the lower minimums of parity that are being evaluated represent a substantial move towards flexibility that will have to be a component of dairy price policy in the 1980's.

Much of the substance of the dairy price support program will continue through this next decade. Parity will probably continue as the price standard; CCC purchases of butter, cheese, and nonfat dry milk will continue as the instrument for making the milk support price operational; and price rather than production controls will be the supply adjuster. But there will be new flexibility as percentages of parity will be defined in a broader range. For processors of cottage cheese, this has to be good news. Raw product costs will not move to artificially high levels, product demand will not be dampened by relatively high milk prices, and the cost

for milk ingredients generally will be in a more normal relationship with other costs and prices. While we may not see all of this flexibility immediately in the dairy title of the Agricultural Act of 1981, we will be seeing that price flexibility in these next several years.

Conclusions

Raw product costs for skim milk, cream, and nonfat dry milk have accounted for an increasing proportion of the total costs of processing and marketing cottage cheese in recent years. Some of the factors that have had a cost impact and will continue to be relevant in this next decade are noted in this paper. These factors are primarily products of public policy associated with decisions made in the Federal milk market order program and the dairy price support program.

Cottage cheese is defined as a Class II or "soft" usage product in the Federal milk order program. It will likely remain as a Class II product and therefore have its milk ingredients priced in fairly close relationship to manufacturing milk prices. The implementation of forward pricing of Class II milk in many fluid milk markets in 1981 will not affect the relative price of milk used for cottage cheese. Neither will the likely dissolution of the Minnesota-Wisconsin manufacturing milk price series and its probable replacement by product price formulas have a measurable effect on milk prices or cottage cheese costs. The relative values of milkfat and solids-not-fat in milk have been determined basically by the levels of CCC purchase prices for butter and nonfat dry milk in recent years. About 50 percent of any price increase has been assigned to milkfat, and the other 50 percent to the solids-not-fat (or skim milk). This ratio will continue to hold. Finally, legislation authorizing the dairy price support program in the next decade will be modified to permit greater flexibility in establishing the support price for milk. As a result, the price of milk used for cottage cheese manufacture will be in closer accord with the level of other economic activity than has been the case in recent years.

One factor not developed in this presentation that could impact the price of milk used for cottage cheese as we look ahead is multiple component pricing. Currently, milk in most markets is tested and priced exclusively in relationship to its butterfat test. But interest in testing and pricing for protein or solids-not-fat as well as butterfat is growing, particularly in cheese markets where yields are directly associated with protein tests. The component pricing topic, including its application to milk used for cottage cheese, will be a part of the raw product cost discussion within a few years.

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